

## DISEASE NOTE

**FIRST REPORT OF LEAF BLIGHT  
CAUSED BY *ALTERNARIA DAUCI*  
ON *BIDENS PILOSA* IN CHINA**

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In May 2014, severe foliage infection on *Bidens pilosa* was observed in Zhanjiang city, Guangdong Province, China. Symptoms first appeared as irregularly shaped, dark brown spots with an average diameter of 4 to 5 mm, sometimes surrounded by a chlorotic halo. In severe infections, lesions enlarged and coalesced, resulting in leaf blighting. A fungus was consistently isolated that produced a cottony and greyish-green mycelium. The conidiophores were 25-85×5 µm in size, olivaceous brown, simple or 1-2 geniculate. Conidia were solitary or occasionally in chains of two, dark olivaceous brown, straight or curved, obclavate, with 5-11 transverse and 1-several longitudinal or oblique septa. The conidia measured 160-410×15-25 µm in size including a filamentous beak (200-300×5 µm). Beaks were often unbranched, 5-7 µm thick at the base, tapering to 1-3 µm at the apex. These morphological features were typical of *Alternaria dauci* (Simmons, 1995). Pathogenicity of the isolate was confirmed by placing seven-day-old mycelial plugs (5 mm) grown on PCA on *Bidens pilosa* leaves, which were wrapped in polyethylene bags and incubated in a moist chamber at 25±2°C and 80-90% relative humidity. Five days after inoculation, leaf spots developed on the inoculated plants from which *A. dauci* was re-isolated, whereas the control plants remained symptomless. Molecular identification was carried out by PCR using the internal transcribed spacer (ITS) region primers ITS1/ITS4 and glyceraldehyde-3-phosphate dehydrogenase (gpd) gene primers gpd1/gpd2 (Berbee *et al.*, 1999). These amplified sequences shared 98% to 99% nucleotide similarity with those of *A. dauci* (GenBank accession Nos JQ936188 and HE796759). Sequences obtained from the pathogen were deposited in GenBank under accessions KP120981 and KP123843. This is the first report of *A. dauci* on *Bidens pilosa* in China and worldwide.

Berbee M. L., Pirseyedi M., Hubbard S., 1999. Cochliobolus phylogenetics and the origin of known, highly virulent pathogens, inferred from ITS and glyceraldehyde-3-phosphate dehydrogenase gene sequences. *Mycologia* **91**: 964-977.

Simmons E.G., 1995. *Alternaria* themes and variations (112-144). *Mycotaxon* **55**: 55-163.

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**FIRST REPORT OF WEB BLIGHT ON  
NETTLE-LEAVED BELLFLOWER CAUSED BY  
*RHIZOCTONIA SOLANI* AG 1-IB IN ITALY**

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In June 2014, in a nursery of the Agroinnova Centre (Torino, northern Italy) and later in a garden near Biella (northern Italy), several 60- to 90-day-old plants of nettle-leaved bellflower (*Campanula trachelium*) were observed, that showed water-soaked lesions on the stems. Subsequently, the foliage blighted, turned brown, clung to the shoots, and matted on the surrounding plants. Eventually, infected plants died. *Rhizoctonia solani* was consistently recovered from diseased tissues in pure culture on potato dextrose agar (PDA). One of the fungal isolates was paired with *R. solani* tester strains. The *C. trachelium* isolate anastomosed (low fusion frequency) only with the AG 1 strain (ATCC 58946) (Sneh *et al.*, 1991). Mycelium and sclerotia were typical for AG 1-IB. The internal transcribed spacer (ITS) region of rDNA was amplified using the primers ITS1/ITS4, and sequenced (GenBank accession No. KP792749). BLAST analysis (Altschul *et al.*, 1997) of the 510 bp amplified sequence showed a 100% similarity with the sequence of *R. solani* KM589032. For pathogenicity tests, one of the isolates was tested by placing mycelial fragments removed from PDA cultures close to 10 healthy *C. trachelium* plants, which were then maintained at 22-25°C. The first symptoms, similar to those observed in the nursery, developed 5-7 days post inoculation and *R. solani* was consistently reisolated from inoculated plants. By contrast, control plants, inoculated with sterile PDA fragments, remained healthy. This is the first report of *R. solani* on *C. trachelium* in Italy as well as worldwide.

Altschul S.F., Madden T.L., Schaffer A.A., Zhang Z., Miller W., Lipman D.J., 1997. Gapped BLAST and PSI-BLAST: a new generation of protein database search programme. *Nucleic Acids Research* **25**: 3389-3402.

Sneh B., Burpee L., Ogoshi A., 1991. Identification of *Rhizoctonia* Species. APS Press, St. Paul, MN, USA.

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